

**ABSTRACT**

A miniature surgical robot and a method for using it are disclosed. The miniature surgical robot attaches directly with the bone of a patient. Two-dimensional X-ray images of the robot on the bone are registered with three-dimensional images of the bone. This locates the robot precisely on the bone of the patient. The robot is then directed to pre-operative determined positions based on a pre-operative plan by the surgeon. The robot then moves to the requested surgical site and aligns a sleeve through which the surgeon can insert a surgical tool.